

ENGINEERING CHANGE NOTICE
DART AEROSPACE LTD

Date: 19/06/18	Job No.: SE19-1048-01	ADR Yes/No: Yes	ADR Date: 19.06.18	ECN #: 19- 625
Product No.: D130-1048 LANDING GEAR		Created By: NO	Approved By:	
Product Name: EC130/H130 CROSSTUBES SKIDTUBES AND WEARPLATES		Checked By:		

Reason for Change:
To introduce lightweight Skidtube blades, to modify blade kit quantities to Qty(1) per kit, and release existing changes.

Documents Released:
IIN-D130-1048 RevC, ICA-D130-1048 Rev. 1
D130-1048-011/-012/-013/-014 Skidtube Installations. D130-1048-041/-042 Skidtube Assemblies. D130-1048-101/-141 FWD crosstube.
D130-1048-711/-713 Landing Gear assemblies. D5569 Skidtube Blade, D5571 Saddle, D5613 Midtube wearplate. D5617 Clamp.

IF APPLICABLE: NCR: _____ PAR: _____ CAR: _____ CIR: _____ URF: 19-625
PAPERWORK UPDATE ☒ PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance / Customer Support Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Airbus	N			
3	Notify Leonardo	N			
4	Manufacturing Licensing Agreement Update	N			

#	Engineering Actions	Reqd	Resp	Notes	Complete
5	Required Documents/Drawings/Item ID's Under Review (URF)	Y			
6	Update Master Document List (MDL)	Y		MDL-D130-1048 REV B	mdl 19.06.20
7	Update Document Record (DR)	N			
8	Update Product Compatability Matrix	N			
9	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
10					

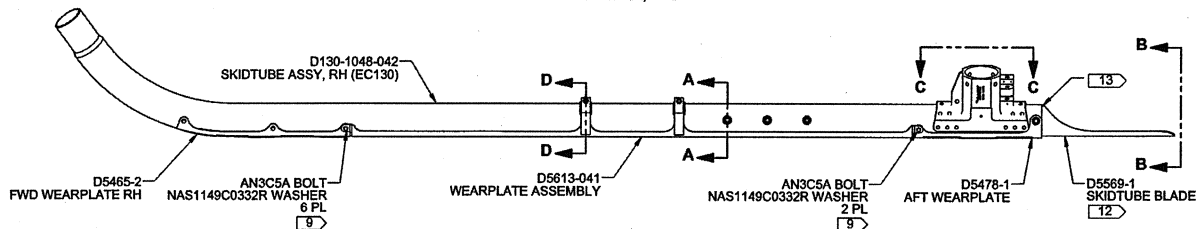
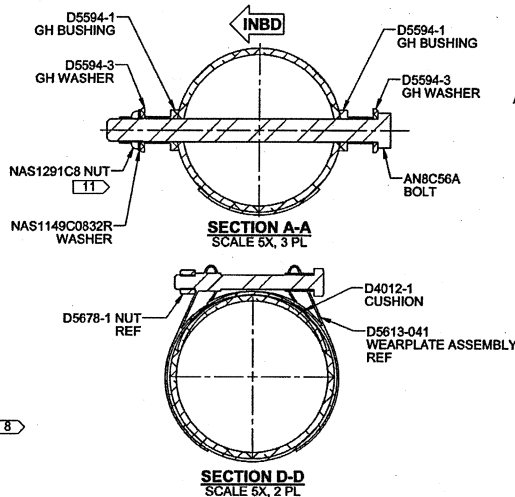
#	Document Control Actions	Reqd	Resp	Notes	Complete
11	Move / Update Electronic Files / Design Journal	Y	MG		mdl 19.06.20
12	Update Product Specification Files (Bluefiles)	Y	MG		mdl 19.06.20
13	Update Approved/Preliminary Dwg PDF Files	Y	MG		mdl 19.06.20
14	Update Product Development Summary (STC applications)	N			
15	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
16	Create/Update Parts / STC Database	Y	MG		mdl 19.06.19
17	Update / Verify Authorized Release Certificate Database	Y	MG		mdl 19.06.19
18	Create / Update Change Record Form / Item Card Database	Y	MG		mdl 19.06.19
19	Create / Update Packaging Process Plan (PPP)	Y	MG		mdl 19.06.20
20	Red Decals required on Packaging Process Plan (PPP)?	Y	MG		mdl 19.06.20
21	Update Controlled Supplier Documents (Qpulse) Database	N	MG		
22	Update Grey Project Binder / Electronic Project Folder	Y	MG		mdl 19.06.20
23	Update D-Part / M-Drawing / DSI / DEO Master Binders	Y			mdl 19.06.19
24	Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's)	N			
25					

Description / Action:
NO CHANGE NUMBER UPDATE. This is the first REV of all parts that is going to customers. Previous top level parts not acceptable. Skidtube blade kits now contain QTY(1) blade, please update all quotes and marketing documentation accordingly. All marketing information needs to be updated to match latest product configuration for basic and heavy duty skids.

nb stc
afos
made
051
052
055

ECN Verified & Complete: _____ Date: _____

QTY -014	P/N	DESCRIPTION
X	D130-1048-014	HEAVY DUTY SKIDTUBE INSTL, RH (EC130)
1	D130-1048-042	SKIDTUBE ASSY, RH (EC130)
2	D4012-1	CUSHION
1	D5465-2	FWD WEARPLATE RH
1	D5478-1	AFT WEARPLATE
1	D5569-1	SKIDTUBE BLADE
1	D5570-1	BLADE PLUG
6	D5594-1	GH BUSHING
6	D5594-3	GH WASHER
1	D5613-041	WEARPLATE ASSEMBLY
1	22201BC120090L	BOLT
1	23111AG120LE	WASHER (OR NAS1149C0832R)
8	AN3C5A	BOLT
3	AN8C56A	BOLT, MACHINE
1	ASN52320BH120N	NUT
8	NAS1149C0332R	WASHER
3	NAS1149C0832R	WASHER
3	NAS1291C8	NUT, SELF-LOCKING
1	23111AG100LE	WASHER (OR NAS1149C0732R)
1	ASNA0045BC100L	NUT, CATELLATED
1	DHS411-101.3106	BOLT
1	EN2367-18028	COTTER PIN (OR MS24665-231)
20	MS21141S0605	MAXIBOLT, BLIND, PAN HEAD (CR7621S06-05)



- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: N/A
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: TOTAL WEIGHT@D130-1048-012@D130-1048-01X.SLDASM" lbs
 - 8) HARDWARE NOT SHOWN. TO BE SHIPPED LOOSE.
 - 9) TORQUE BOLT TO 15 - 25 in-lbs
 - 10) TORQUE NUT TO 44 - 62 in-lbs
 - 11) TORQUE NUT TO 62 - 71 in-lbs
 - 12) SEAL FAYING SURFACES WITH SIKAFLEX-241/-291
 - 13) FILLET SEAL WITH SIKAFLEX-241/-291
 - 14) PLUG SEAL SADDLE HOLES WITH SIKAFLEX-241/-291 OR PROSEAL 890 OR EQUIVALENT MIL-S-8802 SEALANT ENSURE SADDLE BORE IS FREE OF SEALANT

D130-1048-014 HEAVY DUTY SKIDTUBE INSTL, RH (EC130)

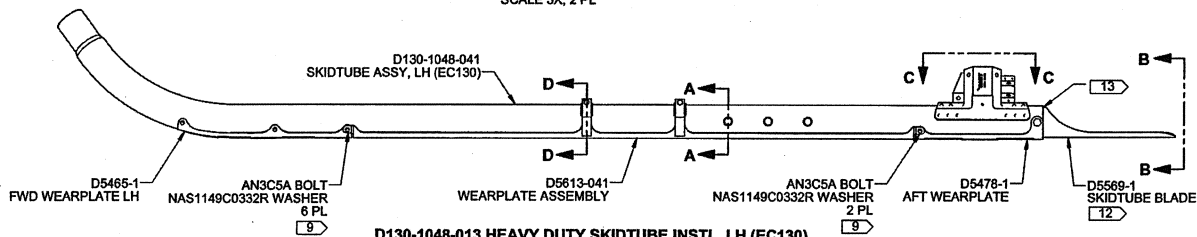
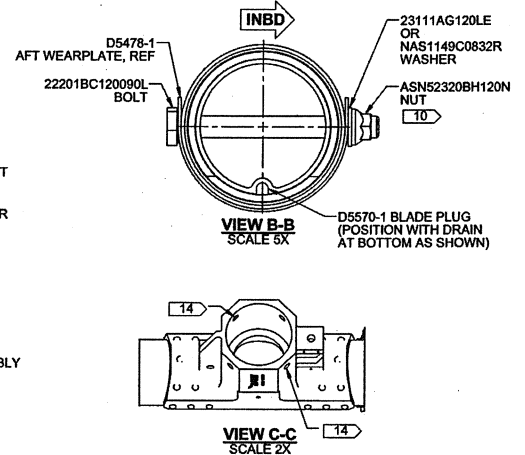
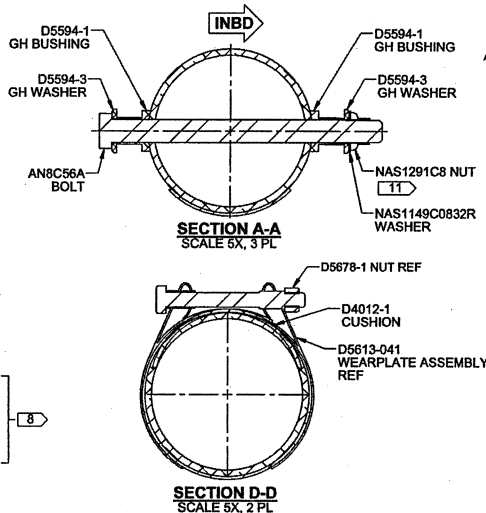
RELEASED

2019 JUN 19 NO
ECN19-625

REV.	NEW ISSUE	DESCRIPTION	ZF	19.04.05
DESIGN	ZF			
DRAWN	ZF			
CHECKED	MW			
MFG. APPR.	JFS			
APPROVED	NO			
DE APPR.	CP			
DATE	19.04.05			

DART AEROSPACE LTD	
HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	REV. A
D130-1048-014	SHEET 1 OF 1
TITLE	SCALE
SKIDTUBE INSTL, RH (EC130)	NTS
COPYRIGHT © 2019 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRELIMINARY AND NOT FOR CONSTRUCTION. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	

QTY -013	P/N	DESCRIPTION
X	D130-1048-013	HEAVY DUTY SKIDTUBE INSTL, LH (EC130)
1	D130-1048-041	SKIDTUBE ASSY, LH (EC130)
2	D4012-1	CUSHION
1	D5465-1	FWD WEARPLATE LH
1	D5478-1	AFT WEARPLATE
1	D5569-1	SKIDTUBE BLADE
1	D5570-1	BLADE PLUG
6	D5594-1	GH BUSHING
6	D5594-3	GH WASHER
1	D5613-041	WEARPLATE ASSEMBLY
1	22201BC120090L	BOLT
1	23111AG120LE	WASHER (OR NAS1149C0832R)
8	AN3C5A	BOLT
3	AN8C56A	BOLT, MACHINE
1	ASN52320BH120N	NUT
8	NAS1149C0332R	WASHER
3	NAS1149C0832R	WASHER
3	NAS1291C8	NUT, SELF-LOCKING
1	23111AG100LE	WASHER (OR NAS1149C0732R)
1	ASNA0045BC100L	NUT, CATELLATED
1	DHS411-101.3106	BOLT
1	EN2367-1802B	COTTER PIN (OR MS24665-231)
20	MS21141S0605	MAXIBOLT, BLIND, PAN HEAD

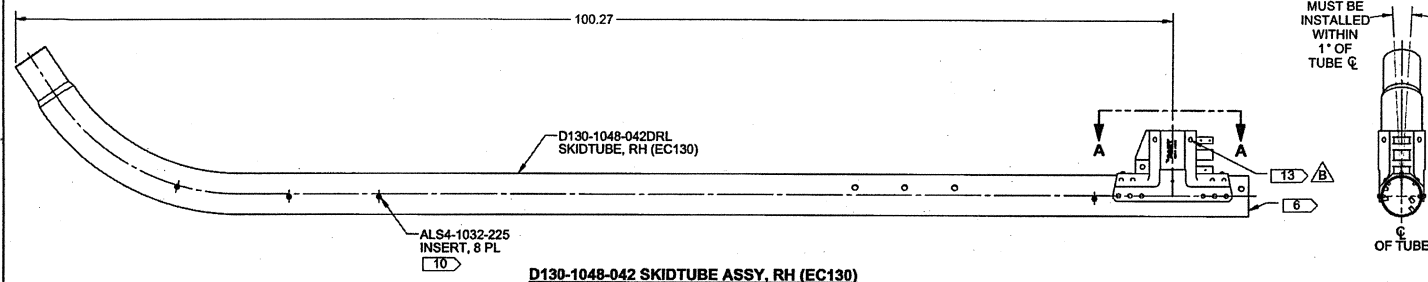
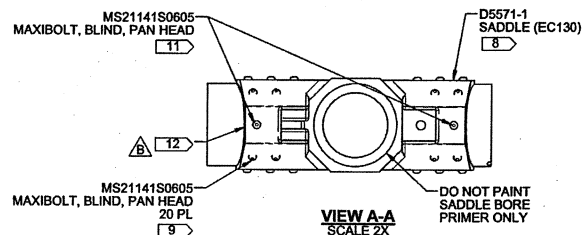


- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: N/A
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 25.96 lbs
 - 8) HARDWARE NOT SHOWN. TO BE SHIPPED LOOSE.
 - 9) TORQUE BOLT TO 15 - 25 in-lbs
 - 10) TORQUE NUT TO 44 - 62 in-lbs
 - 11) TORQUE NUT TO 62 - 71 in-lbs
 - 12) SEAL FAYING SURFACES WITH SIKAFLEX-241/291
 - 13) FILLET SEAL WITH SIKAFLEX-241/291
 - 14) PLUG SEAL SADDLE HOLES WITH SIKAFLEX-241/291 OR PROSEAL 890 OR EQUIVALENT MIL-S-8802 SEALANT ENSURE SADDLE BORE IS FREE OF SEALANT

RELEASED
2019 JUN 19 NO
ECN 14-625

A		NEW ISSUE		DESCRIPTION		ZF	19.04.05
REV.						BY	DATE
DESIGN	ZF	DART AEROSPACE LTD				REV. A	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA				SHEET 1 OF 1	
CHECKED	MW	DRAWING NO. D130-1048-013				SCALE	
MFG. APPR.	JFS	TITLE SKIDTUBE INSTL, LH (EC130)				NTS	
APPROVED	NO	DATE 19.04.05				COPYRIGHT © 2019 BY DART AEROSPACE LTD	
DE APPR.	CP	THIS DOCUMENT IS PRELIMINARY AND NOT FOR CONSTRUCTION. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.					

QTY -042	P/N	DESCRIPTION
X	D130-1048-042	SKIDTUBE ASSY, RH (EC130)
1	D130-1048-042DRL	SKIDTUBE, RH (EC130)
1	D5571-1	SADDLE (EC130)
22	MS21141S0605	MAXIBOLT, BLIND, PAN HEAD
8	ALS4-1032-225	INSERT



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER) AFTER ASSEMBLY
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT) AFTER ASSEMBLY
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D130-1048-042" AND S/N PER DART QSI 044 6.4 ON INSIDE OF TUBE, MAX 0.5" FROM AFT END OF TUBE
- 7) WEIGHT: 20.20 lbs
- 8) SEAL FAYING SURFACE WITH PROSEAL 890 OR EQUIVALENT MIL-S-8802 CLASS A SEALANT
- 9) POSITION SADDLE AND TRANSFER DRILL $\phi 0.193$ HOLE PATTERN FROM SADDLE ONTO SKIDTUBE.
OPEN HOLES THRU SADDLE AND SKIDTUBE TO $\phi 0.199 - \phi 0.202$. TOUCH-UP HOLES WITH CHEMICAL FILM (ALODINE 1200) PER MIL-DTL-5541. WET INSTALL MAXIBOLTS WITH PROSEAL 890 OR EQUIVALENT MIL-S-8802 CLASS A SEALANT
- 10) INSTALL ALS4 INSERTS IN EXISTING $\phi 0.297$ HOLES AFTER FINISH
- 11) TRANSFER DRILL $\phi 0.193$ HOLES FROM SADDLE TO SKIDTUBE. OPEN HOLES THRU SADDLE AND SKIDTUBE TO $\phi 0.199 - \phi 0.202$. ENSURE CLEAN HOLES FOR GOOD ELECTRICAL BONDING. TOUCH-UP HOLES WITH ELECTRICALLY CONDUCTIVE CHEMICAL FILM (ALODINE 600) PER MIL-DTL-5541. INSTALL MAXIBOLTS DRY (NO SEALANT).
- 12) FILLET SEAL ALL AROUND SADDLE WITH SIKAFLEX-241/291 OR PROSEAL 890 OR EQUIVALENT MIL-S-8802 CLASS B SEALANT
- 13) MASK SADDLE HOLES BEFORE PRIME AND PAINT

RELEASED
2019 JUN 13 NO
ECN19-625

B	REDRAWN BOTH SHEETS, D130-1048-042; ADDED PRIME TO FINISH NOTE, ADDED CLASS A SEALANT FOR FAY SEAL AND WET INSTALL MAXIBOLTS, INSTALL ALS4 INSERTS AFTER FINISH, ADDED NOTE 12		ZF	18.12.31
	D130-1048-042DR: PRIME IN AREA SHOWN WAS PRIOR TO DRILLING, ADDED NOTE 12, REMEDIATION FROM BLADE HOLE INSTEAD OF TUBE END.			
A	NEW ISSUE		ZF	18.05.07
REV.	DESCRIPTION		BY	DATE
DESIGN	NO	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA D130-1048-042 TITLE SKIDTUBE ASSY, RH (EC130) COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT PERMISSION FROM DART AEROSPACE LTD.		
DRAWN	ZF			
CHECKED	MW			
MFG. APPR.	JFS			
APPROVED	NO			
DE APPR.	CP	18.12.31	SCAL	1 OF 1

APPROVED

A